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IN REPLY REFER TO

30 August 1999

PAC 730.31/99-8 99-PAC-094(R)

MEMORANDUM FOR REGIONAL DIRECTORS, DCAA
DIRECTOR, FIELD DETACHMENT, DCAA

SUBJECT: Audit Guidance on Accounting for Costs related to Enterprise Resource Planning (ERP) Systems

SUMMARY

Many contractors are investing significant resources in implementing Enterprise Resource Planning (ERP) systems to reengineer their business processes and to replace legacy systems that no longer meet their needs. ERP systems are mainly supported by multi-module application software that integrates company-wide information covering all functional areas (e.g., purchasing, manufacturing, inventory, sales, accounting, human resources, etc.) A typical ERP project involves reengineering business processes and selecting and implementing commercially available software packages from the vendors such as SAP, Oracle, Deltek, etc. Absent specific coverage in FAR, CAS, or other government regulations, Generally Accepted Accounting Principles will be the guidelines for accounting for costs related to implementing ERP systems for contract costing purposes.

Costs of business process reengineering activities, whether performed by company employees or by outside consultants, should be **expensed** as incurred, in accordance with Financial Accounting Standards Board (FASB) Emerging Issue Task Force (EITF) Issue No. 97-13, *Accounting for Costs Incurred in Connection with a Consulting Contract that Combines Business Process Reengineering and Information Technology Transformation*. The EITF identifies four types of activities that are typically associated with business process reengineering activities: (1) preparation of request for proposal, (2) current state assessment, (3) process reengineering, and (4) restructuring the work force.

Costs of the software element of the ERP project should be accounted for in accordance with AICPA Statement of Position (SOP) 98-1, *Accounting for the Costs of Computer Software Developed or Obtained for Internal Use.* The SOP provides that internal and external costs incurred during the preliminary project stage and the post-implementation/operation stage should be **expensed**. Those incurred during the application development stage should be **capitalized** with the exception of certain data conversion costs.

Guidance on other audit considerations regarding contractor implementation of ERP systems will be separately issued by the Incurred Cost Division.

BACKGROUND

As noted in EITF Issue No. 97-13, significant information technology transformation projects that involve enterprise software packages (known as ERP systems) have been undertaken by companies. The transformation projects may encompass software development, software acquisition, software implementation, training and ongoing support. Business process reengineering may be a component of some of these activities. Generally, business process reengineering activities are a pre-requisite for an ERP software implementation. However, reengineering activities might continue and occur concurrently during the ERP implementation.

The transformation projects may also include the installation of new computer hardware, purchase of new office equipment and furniture, or workstations, and a physical reconfiguration of the work area.

Costs of internal-use software is addressed in AICPA Statement of Position (SOP) 98-1, *Accounting for Costs of Computer Software Developed or Obtained for Internal Use,* dated 4 March 1998. However, the costs of reengineering activities are not within the scope of the SOP. EITF Issue No. 97-13, *Accounting for Costs Incurred in Connection with a Consulting Contract or an Internal Project that Combines Business Process Reengineering and Information Technology Transformation,* dated 20 November 1997, addresses the issue of business process reengineering. EITF 97-13 sets forth the typical activities of a business process reengineering project that is part of a broader software implementation project, such as an ERP project. It also incorporates SOP 98-1 on internal-use software as guidance on accounting for the software elements of the information technologies transformation projects. The detailed audit guidance on SOP 98-1 is provided in MRD 98-PAC-113, dated 22 July 1998.

GUIDANCE

1. Business Process Reengineering (EITF Issue No. 97-13)

In EITF Issue No. 97-13, the Task Force provides that the cost of business process reengineering activities, whether performed internally or by third parties, is to be **expensed** as incurred. This also applies when the business reengineering activities are part of a project to acquire, develop, or implement internal-use software. The costs associated with the following business process reengineering activities should be expensed as incurred:

a. **Preparation of request for proposal**.

b. **Current state assessment:** The process of documenting the entity's current business process, except as it relates to current software structure. This activity is sometimes called mapping, developing an "as-is" baseline, flowcharting, and determining current business process structure.

c. **Process reengineering:** The effort to reengineer the entity's business process to increase efficiency and effectiveness. This activity is sometimes called analysis, determining "best-in-class," profit/performance improvement development, and developing "should-be" processes.

d. **Restructuring the work force:** The effort to determine what employee makeup is necessary to operate the reengineered business processes.

Because ERP projects combine internal-use software and business reengineering activities, it is important to properly classify such activities. Some of the reengineering activities could be occurring concurrently with software implementation. It should be noted that for costs to be expensed as reengineering activities, the focus of the activities should be on process rather than software systems. This is true even if contractor employees, outside consultants, or software vendors involved in these activities may have information technology and software application expertise.

Additionally, when an outside consultant or a software vendor is used to complete an ERP project, the total price of the contract may include multiple elements, such as business process reengineering, software costs, training, maintenance support, etc. EITF 97-13 provides that the cost should be allocated to each element based on the relative fair values of those separate activities, not necessarily the separate prices stated within the contract for each element. This is important because some of these costs are eligible for capitalization as discussed in No. 2 below. The information such as vendor price lists, price charged or quoted by similar vendors, or vendor pricing sheets (rates per hour times budgeted hours) can be used to determine the separate activity market prices. Auditors should ensure that the estimate of fair value assigned to each activity is reasonable and that contractors have adequate procedures to allocate the consulting costs between business reengineering activities and internal-use software stages (i.e., preliminary, application development, and post-implementation).

2. Computer Software Developed or Obtained for Internal Use (SOP 98-1)

The software element of ERP projects should be accounted for in accordance with SOP 98-1. SOP 98-1 requires companies to capitalize and amortize many of the costs associated with developing or obtaining software for internal use. A typical ERP project encompasses a wide range of software related activities, such as software acquisition, configuration, modification, data conversion, maintenance, etc. Accounting treatment of those activities should be determined based on three stages to internal-use software specified in SOP 98-1:

a. **Preliminary Project Stage:** Internal and external costs incurred during the preliminary project stage should be **expensed**. During this stage, companies will likely:

- Make strategic decisions to allocate resources between various projects.

- Determine the performance requirements of the software. For example, should the software be designed to perform a limited number of functions and uses or should the software have broader functionality and be available to more uses throughout the company?

- Explore alternative means of achieving the performance requirements. Should the system run on client server system (LAN), a mainframe, or a PC?

- Determine the technology requirements necessary to achieve the performance requirements of the software. Is the existing hardware capable of achieving the performance requirements or is new hardware required?

- Invite and select vendors(s) if the software is to be obtained from a third-party.

- Select consultants to assist in the development or installation of the software.

b. **Application Development Stage:** Activities performed during the application development stage create probable future economic benefits. Therefore, costs incurred during this stage should be **capitalized.**

Capitalization should begin when (1) the preliminary project stage has been completed; and (2) management, with the relevant authority, authorizes (implicitly or explicitly) and commits to funding a computer software project and believes that it is probable that the project will be completed and the software will be used to perform the function intended.

Capitalization should cease no later than the point at which a computer software project is substantially complete and ready for its intended use. For purposes of SOP 98-1, computer software is ready for its intended use after all substantial testing is completed.

The application development stage generally includes:

- Design of chosen path, including software configuration and software interfaces.
- Coding
- Installation to hardware
- Testing, including parallel processing phase
- Data conversion

The process of data conversion from old to new systems may include purging or cleansing of existing data, reconciliation or balancing of the old data and the data in the new system, creation of new/additional data, and conversion of old data to the new system. Costs to develop or obtain software that allows for access or conversion of old data by new systems should be **capitalized.** All other data conversion costs should be **expensed** as incurred.

c**. Post-Implementation/Operation Stage:** Costs incurred during the post-implementation/operation stage should be **expensed** as incurred. During this stage, companies will train employees and perform maintenance and ongoing support activities. The SOP states that even if training cost is incurred during the application development stage, it should be expensed as incurred.

If a contractor has a software license and software maintenance contract from an ERP vendor, the software license costs are capitalized, while the software maintenance portion of the contract is expensed.

ERP systems generally involve several modules. SOP 98-1 applies to the individual components or modules of the computer system. For each component or module of a software project, amortization should begin when the component or module is ready for its intended use, regardless of whether the entire software system will be placed in service in planned stages that may extend beyond the reporting period. Auditors should ensure that contractors separately account costs by module or component to comply with this requirement. Computer software is ready for its intended use after all substantial testing is complete. If the functionality of a module is entirely dependent on the completion of other modules, amortization of that module should begin when both that module and the other modules upon which it is functionally dependent are ready for its intended use.

Finally, SOP 98-1 requires that costs of significant upgrades and enhancements to the existing computer software should be **capitalized** if it is probable that those expenditures will result in significant additional functionality or a significant extension of the software's useful life. SOP 98-1 defines additional functionality as changes to the software so that it may perform a task it is not currently able to perform. SOP does allow entities that cannot separate internal costs on a reasonably cost effective basis between maintenance and relatively minor upgrades and enhancements to expense such costs as incurred.

For additional guidance on SOP 98-1, refer to MRD 98-PAC-113, dated 22 July 1998, *Audit Guidance on AICPA Statement of Position 98-1, Accounting for the Costs of Computer Software Developed or Obtained for Internal Use.*

The following table summarizes the accounting for costs of typical components of an ERP project.

Activities	**Expensed in accordance with**	**Capitalized In accordance with**
Business process reengineering and information technology transformation:		
Preparation of request for proposal (RFP)	EITF 97-13	
Current state assessment	EITF 97-13	
Process reengineering	EITF 97-13	
Restructuring work force	EITF 97-13	
Preliminary software project stage activities:		
Conceptual formulation of alternatives	SOP 98-1	
Evaluation of alternatives	SOP 98-1	
Determination of existence of needed technology	SOP 98-1	
Final selection of alternatives	SOP 98-1	
Application development stage activities:		
Design of chosen path, including software configuration and software interface		SOP 98-1
Coding		SOP 98-1
Installation to hardware		SOP 98-1
Testing, including parallel processing phase		SOP 98-1
Data conversion costs:		
• Costs to develop or obtain software that allows for access of old data by new system		SOP 98-1
• All other data conversion process	SOP 98-1	
Post-implementation/operation stage activities:		
Training	SOP 98-1	
Application maintenance	SOP 98-1	
Ongoing support	SOP 98-1	
Acquisition of Fixed Assets: Purchase of new computer equipment Reconfiguration of work area		The entity's existing policy

CONCLUDING REMARKS

Field audit office personnel should direct any questions regarding this memorandum to their regional offices. Regional personnel should direct questions to Ms. Hyosun Ro, Program Manager, Accounting & Cost Principles Division, at (703) 767-3250.

/SIGNED/

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